

[Hamburg.] Deutsche Seewarte.

Funk-Wetter. Liste und Schlüssel der Wetterfunkspüche, funkentelegraphischen Zeitsignale und Eismeldungen. 4th Aufl. Altona. [1922.] 84 p. maps. 24 cm. (Deutsche Seewarte. Abt. III. Juni, 1922.)

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Aircraft speed instruments. pt. 1-3. Washington. 1922. 38 p. illus. 29 cm. (Nat. adv. comm. for aeron. Report no. 127.)

Hurd, Willis E.

Tropical storms of the eastern North Pacific ocean. Washington. 1923. 1 sheet. figs. 66½ x 97 cm.

Italy. Servizio idrografico.

L'opera del Servizio idrografico nel biennio 1921-1922. Memorie e studi idrografici. Roma. 1923. 218 p. figs. plates (part fold.) 26 cm.

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Carte annuali delle piogge nella regione veneta per gli anni 1917 e 1918. Venezia. 1922. 32 p. maps (fold.) 26 cm. (Pubblicazione N. 93.)

Kloster, Wilhelm.

Bewölkungs-, Niederschlags- und Gewitterverhältnisse der westindischen Gewässer und der angrenzenden Landmassen. Hamburg. 1922. 67 p. illus. plates (fold.) 29½ cm. (Archiv der Deutschen Seewarte. 40. Jahrg. H. 1. 1922.)

Manuel, R. P., & Navarro-Neumann, M. S.

El barógrafo de mercurio de la estación sismológica de Cartuja (Granada). Nota leída por el académico numerario Dr. Eduardo Fontseré. Barcelona. 1923. 6 p. illus. 29½ cm. (Memorias R. Acad. de cien. y artes. Barcelona. v. 17. 3d época. núm. 22.)

Mears, A. H., & others.

Altitude instruments. Washington. 1922. 64 p. illus. 29½ cm. (Nat. adv. comm. for aeron. Report no. 126.)

Mercanton, Paul L.

Influence du relief terrestre sur la teneur en ions de l'atmosphère. [Lausanne.] 4 p. 22½ cm. (Extr.: Soc. vaud. des sci. nat. Procès-verbal. Séance 5 juil. 1916.)

Quelques cas historiques de réfraction atmosphérique excessive. p. 16-18. 23 cm. (Extr.: Soc. suisse de géoph., mét., et astron. n. d.)

Morocco. Service météorologique.

Note sur la signification des termes employés dans les télégrammes et radiogrammes du service de prédition de la houle au Maroc. n. p. n. d. unp. diagr. 31 cm. [Manifolded.]

Nedelkovich, Milan.

[Meteorology and agriculture.] Belgrad. 1907. 100 p. 25½ cm. [Title and text in Russian.]

Ontario. [Fire marshal.]

Lightning rod act. Rules and regulations prescribed thereunder. Standardization of equipment and methods of installation. Toronto. 1922. v. 66 p. illus. 20 cm.

Peppeler, Wilhelm.

Die Niederschlagsverhältnisse in Baden. Auf Grund 30-jähriger Beobachtungen von 1888-1917. Karlsruhe. 1922. 16 p. plates. 28 cm. (Veröff. Badischen Landeswet. Nr. 2. Abhandl. Nr. 1. 1922.)

Rosenstein, A. B.

Climate of Jaffa—Telaviv—Sarona. Telaviv. 1922. 19, xxx p. 24½ cm. [Text in Hebrew and English.]

Slipher, V. M.

Spectrum of Venus. n. p. [1921.] p. 85-89. plate. 31 cm. [Investigation of the atmosphere of Venus.] (Lowell obs. v. 3. no. 9. Bulletin no. 84.)

Spitaler, Rudolf.

Stündlicher Gang des Luftdruckes auf dem Donnersberge. 1905-1914. Prag. 1922. 121, 121 p. 32 cm. (Veröff. met. Obs. Donnersberge (Böhmen). Nr. 7-8.)

U. S. Bureau of standards.

Testing of barometers and altimeters. 3d ed. Washington. 1922. 22 p. tables. diagrs. 27½ cm. (Bur. stand. Circular no. 46.)

Wechsler, A.

Microbarograph and the measurement of heights by the barometric method. London. n. d. 8 p. illus. 21½ cm.

Wolfer, A.

Die Sonnenfleckenhäufigkeit in den Jahren 1902-1920. [Zürich. 1921.] p. 31-33. diagr. 29½ cm. (Abdruck aus Jubiläumsnumm., Astron. Nachr.)

Wright, R. C., & Taylor, George F.

Freezing temperatures of some fruits, vegetables, and cut flowers. Washington. 1923. 8 p. 23½ cm. (U. S. Dept. agric. Dept. bull. no. 1133.)

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. F. TALMAN, Meteorologist in Charge of Library.

The following titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

Aerial age. New York. v. 16. March, 1923.

Gregg, Willis Ray. What the Weather bureau is doing for aviation. p. 120-123; 136.

Aeronautical digest. New York. v. 2. April, 1923.

Meisinger, C. LeRoy. The scope of aeronautical meteorology. p. 251-252; 295.

Akademie der Wissenschaften. Sitzungsberichte. Wien. Abt. IIa. Bd. 130. H. 7 & 8. 1921.

Defant, Albert. Die Bestimmung der Turbulenzgrößen der atmosphärischen Zirkulation aussertropischer Breiten. p. 383-403.

American society of heating and ventilating engineers. Journal. New York. v. 29. March, 1923.

Hodge, O. J. The testing of anemometers. p. 75-78.

Houghton, F. C., & Yagloglou, C. P. Determining equal comfort lines. Laboratory tests conducted give results for still air conditions. p. 165-176.

Ingels, Margaret. New data on air dust determinations.—Further developments in the Anderson and Armsbach apparatus. . . p. 177-193.

Annalen der Hydrographic und maritimen Meteorologie. Berlin. 50. Jahrg. 1922.

Wiese, W. Die Einwirkung des Polareises im Grönlandischen Meere auf die Nordatlantische zyklonale Tätigkeit. p. 271-280. (Okt.)

Letzmann, Johannes. Die Trombe von Cuxhaven am 16. Juli 1922. p. 306-308. (Nov.)

Castens, G. Windgeschwindigkeitsänderung und Regenfall. p. 332-333. (Dez.)

Kleinschmidt, E. Bemerkungen zu der Arbeit von H. Bongards: Der tägliche Gang des Luftdrucks. p. 330-332. (Dez.)

Köppen, W. Jährlicher Gang der Regenhäufigkeit in der Umgebung der Ostsee. p. 313-316. (Dez.)

Spitaler, R. Erwiderung auf die Bemerkungen zu meiner Theorie der täglichen Luftdruckschwankung. p. 322-330. (Dez.)

Astronomie. Paris. 37 année. 1923.

Descombes, Paul. Les anomalies météorologiques et l'influence du déboisement. p. 79-82. (Fév.)

Raymond, G. La pluie et les orages en Provence. p. 128-130. (Mars.) [Period equal to one-fourth the rotation period of the sun.]

British astronomical association. Journal. London. v. 33. February, 1923.

Richardson, Lawrence. The distribution of light in the earth's shadow. p. 178-195.

Cuba. Observatorio nacional. Boletín. Habana. v. 18. Octubre 1922e

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Discovery. London. v. 39. March, 1923.

Britton, C. E. How upper winds are measured. p. 77-79.

Russell, A. S. Sunspots and climate. p. 79-80.

- France. Académie des sciences. Comptes rendus. Paris. t. 176. 1923.*
- Bauer, E., & Danjon, A. L'absorption atmosphérique au mont Blanc. p. 761-763. (12 mars.)
- Erilia, Filippo. Sur la température de l'air en Tripolitaine. p. 850-852. (19 mars.)
- Franklin institute. Journal. Philadelphia. v. 195. April, 1923.*
- Swann, W. F. G. Unsolved problems of cosmical physics. p. 433-474. [Discusses atmospheric electricity, terrestrial magnetism, etc.]
- Geografiska annaler. Stockholm. Arg. 4, 1922.*
- Hildebrandsson, H. H. Sur les variétés des cirrus. p. 445-457.
- Wallén, Axel. La météorologie agricole internationale. p. 496-498. [Acct. of Rome meeting of Int. commission, May, 1922.]
- Wallén, Axel. Réunion de l'Union internationale de géodésie et de géophysique à Rome en mai 1922. p. 488-492.
- Géographie. Paris. t. 39. Féb. 1923.*
- Espinay, Fernand d'. Quelques observations sur les tremblements de terre des 5 et 6 avril 1922 à Quito et dans la région avoisinante. p. 210-214.
- Girardin, Paul. Henri Vallot. (1853-1922.) p. 231-236. [Obituary.]
- Great Britain. Meteorological office. Monthly meteorological charts. East Indian seas. London. May, 1923.*
- Howard, A. G. W. Clouds.
- Hemel en dampkring. Den Haag. 21 jaargang. 1923.*
- Kamerling, Z. Enkele opmerkingen over de meerjarige, min of meer periodische, meteorologische variaties. p. 80-83. (Maart.)
- Schoute, C. Getijden in den dampkring. p. 107-110. (April.)
- Iberia. Tortosa. Año 10. t. 1. 3 Marzo 1923.*
- Trullás, Pedro. El gran terremoto del pacífico del 3 de febrero de 1923. p. 136-138.
- International institute of agriculture. International review of the science and practice of agriculture. Monthly bulletin of agricultural intelligence and plant diseases. Rome. v. 13. 1922.*
- Lyon, C. J. Correlation between the temperature and the dates of flowering in New England, U. S. A. p. 805. (July.) [Abstract from Torreya.]
- Azzi, G. Critical period of wheat as regards rain. p. 1184-1185. (October.) [Abstract.]
- De Vilmorin, J. Effects of a dry, warm year on wheat crops grown at Verrières. p. 1305. (November.) [Abstract.]
- Azzi, G. Effect on the yield of wheat of variations in the degree of humidity of the soil during and after the critical period. p. 1431-1433. (December.) [Abstract.]
- Hessling, N. A. Effect of meteorological factors on the quality and quantity of wheat produced in Argentina. p. 1427-1431. (December.) [Abstract.]
- Silveira, Alvaro A. de. The climate of the mountainous regions of Minas Geraes (Brazil) in relation to agricultural and zootechnical conditions. p. 1426-1427. (December.) [Abstract.]
- Japan. Central meteorological observatory. Seismological bulletin. Tokyo. v. 1. December 1922.*
- Nakamura, Saemontaro. On the destructive earthquakes in Formosa on the 2nd and 15th of September 1922. p. 60-69.
- Nakamura, Saemontaro. The record of the Chilean earthquake on the 11th of November, 1922. p. 70-72.
- Japanese journal of physics. Transactions and abstracts. Tokyo. v. 1. 1922.*
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- Bilham, E. G. The line squall of November 26, 1922. p. 323-327.
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- Morita, Heizi, & Isii, Tuneo. On the relation of barometric gradient and the velocity of north wind at 14h. at Kumagaya. p. 27-31. [In Japanese, with English abstract.]
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- Hofmann, Alb. Zur Methodik der Polarisationsmessungen. p. 54-56. (Feb.)
- Köppen, W. Nachruf auf Erwin Knipping. p. 47-48. (Feb.) [Obituary.]
- Kuhlbrot, Erich. Zum Klima von Mazedonien. p. 48-51. (Feb.)
- Loewe, Fritz. Die Niederschlagsverhältnisse Marokkos (nach A. Bernard.) p. 59-61. (Feb.)
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- Oedl, Robert. Über Höhlenmeteorologie, mit besonderer Rücksicht auf die grosse Eishöhle im Tennengebirge (Eisriesenweld.) p. 33-37. (Feb.)
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- Baur, Franz. Bemerkungen zur Aufsuchung von Perioden in Witterungserscheinungen. p. 90-92. (März.)
- Ficker, H. Polarfront, Aufbau, Entstehung und Lebensgeschichte der Zyklonen. p. 65-79. (März.)
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- Kerner, Fritz v. Die Grundgleichung der Paläoklimatologie. p. 80-83. (März.)
- Schmauss, A. Kolloidforschung und Meteorologie. p. 83-86. (März.)
- Schmidt, Wilhelm. Das Wandern des Wasserdampfes quer über die Breitenkreise. p. 88-90. (März.)
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- Werth, E. Der phänologische Reichsdienst. p. 208-209. (16 März 1923.) [Abstract.]
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- Cox, Henry J. Weather by months. p. 58-63.
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- Herath, Friedrich. Meteorologie und Wellentelegraphie. Beeinflussung des Funkverkehrs durch die Gleitflächen in der Atmosphäre. p. 119-127.
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MARCH, 1923.

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Stüve, G. Aerologische Untersuchungen zum Zwecke der Wetterdiagnose. p. 104-116.
Stüve, G. Eine Verbesserung der Haarhygrometer. p. 117-118.
Tetens, Otto. Der tägliche Gang des Windes in der freien Atmosphäre über Lindenbergs. p. 62-81.
Wegener, K. Die Flugstelle des Observatoriums Lindenbergs. p. 162-167.
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Douglas, C. K. M. Observations of upper cloud drift as an aid to research and to weather forecasting. p. 342-356.
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Richardson, L. F., Wagner, A., & Dietzus, R. An observational test of the geostrophic approximation in the stratosphere. p. 328-341.
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C. G. Knott, 1856-1922. p. xxvii-xxviii. [Obituary.]
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Humphreys, W. J. Three of a kind. p. 386-391. (March 30.)
[Review of three recent books on meteorology.]
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Crestani, G. L'installazione del pluviometro. p. 17-19.
Eredia, Filippo. Cosimo de Giorgi. p. 19-20. [Obituary.]
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Robitzsch, M. Die Schätzung der Bewölkungsgrade. p. 28-31.
Troeger, Heinz. Gewitter und Örtlichkeit. p. 31-32.

SOLAR OBSERVATIONS.

SOLAR AND SKY RADIATION MEASUREMENTS DURING MARCH, 1923.

By HERBERT H. KIMBALL, In Charge, Solar Radiation Investigations.

For a description of instruments and exposures and an account of the method of obtaining and reducing the measurements, the reader is referred to this REVIEW for April, 1920, 48:225, and a note in the issue for November, 1922, 50:595.

From Table 1 it is seen that direct solar-radiation intensities averaged somewhat below the normal values for March at Washington, and close to normal at Madison and Lincoln. An intensity of 1.48 gram-calories per

minute per centimeter square measured at Washington at noon on March 29 equals the highest intensity previously measured at that station in March.

Table 2 shows that the total solar and sky radiation received on a horizontal surface averaged above the laarch normal at Madison and Lincoln, and during the rest two weeks of the month at Washington.

Skylight-polarization measurements obtained at Washington on 11 days give a mean of 56 per cent, with a maximum of 63 per cent on the 29th. These are slightly below the average values for Washington for March. At Madison the ground was covered with snow throughout the month, and no measurements were obtained.